

Rohith Singh

Backend / Full-Stack Engineer: AI Infrastructure & Agentic Systems

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Summary

Backend and full-stack engineer who builds production AI systems, from RAG pipelines to workflow-orchestration engines, designed to hold up under real traffic and multi-tenant load. Works across backend architecture, agent infrastructure, and full-stack delivery with TypeScript, Python, NestJS, FastAPI, PostgreSQL/pgvector, and Docker.

Experience

Full Stack Developer, Createxp Sep 2025 – Present

- Built and deployed a production RAG pipeline combining LLM-based intent extraction, vector retrieval, and contextual ranking, delivering streaming AI responses in under 200ms
- Designed a multi-signal ranking service (vector similarity, specification matching, contextual scoring) and shipped it as a Dockerized backend with authentication, webhooks, and structured logging
- Redesigned the underlying PostgreSQL specification data model and built automated migration tooling, safely migrating 10,000+ records with no manual cleanup

Software Development Engineer Intern, Grit Labs Jul 2025 – Sep 2025

- Built **fam.cool**, an internal testbed for prototyping AI personas, using prompt-based conditioning and behavioral tuning to differentiate agent personalities, with real-time messaging via Express.js, PostgreSQL, RabbitMQ, and WebSockets
- Built full-stack systems for **Jumble Cash**, an AI-assisted on-chain arcade product used by 1K+ users, implementing complex client state, multi-round game flows, and integration with an AI decision engine
- Owned deployment infrastructure across both products (Docker, Kubernetes, DigitalOcean), enabling the two-person team to ship independently to production

Full Stack Developer, Createxp May 2025 – Jul 2025

- Migrated an application from a tightly-coupled tRPC architecture to a dedicated Express.js backend and Next.js frontend, decoupling client and server concerns and simplifying state management with React Query
- Built a hierarchical file-management system on Amazon S3, replacing ad hoc file handling with structured nested directories, uploads, and public/private access controls

Projects

Linea: Open-Source AI Workflow Orchestration Platform | TypeScript, NestJS, getlinea.app
LangGraph.js, BullMQ, PostgreSQL/pgvector

- Architected and open-sourced a production-grade AI workflow orchestration platform built around LangGraph, BullMQ, NestJS, and PostgreSQL/pgvector, with a published TypeScript SDK
- Supports composing agents, RAG, tool calls, and human approvals into durable, multi-tenant workflows, including subworkflows and checkpointed execution with retries and token accounting
- Designed a provider-agnostic AI abstraction spanning Anthropic, OpenAI, Google, Groq, xAI, and Ollama, with workspace-level bring-your-own-key resolution

3DLabs: Autonomous AI Video Pipeline | Next.js, TypeScript, Gemini, Replicate, 3dlabs.it.com
ElevenLabs, FFmpeg

- Architected and built an autonomous AI video-generation pipeline used by 5 teams / 40–50 users, orchestrating 12+ AI models across story generation, scene planning, image/video generation, TTS, sound design, and FFmpeg assembly to generate videos up to 15 minutes long
- Designed a credit-reservation workflow and multi-tenant workspace isolation for projects, collaborators, and credit accounting

Skills & Technologies

Languages: TypeScript, JavaScript, Python, Rust, SQL

Backend: Node.js, NestJS, Express.js, FastAPI, REST APIs, WebSockets, tRPC, Drizzle, Prisma

AI/Agents: LangGraph, LangChain, RAG, agent orchestration, tool calling, MCP, embeddings, vector search, prompt engineering

Data & Messaging: PostgreSQL, pgvector, Redis, MongoDB, hybrid retrieval, BullMQ, RabbitMQ, event-driven workflows

Frontend: React, Next.js, TanStack Query, Tailwind CSS

Infrastructure: Docker, Kubernetes, AWS, Amazon S3, DigitalOcean, GitHub Actions, NGINX

Open Source & Achievements

- TS-Circuit:** Contributor to React/TypeScript frontend tooling, PCB visualization, and geometry/rendering; shipped improvements to component polarity markings, hull rendering, cursor positioning, and editor validation
- DocsGPT / CopilotKit:** Contributed AI features to DocsGPT and built example agent applications using CopilotKit
- 50+ merged pull requests across open-source projects, plus \$1K+ earned through OSS bounty programs
- 6x Hackathon Winner across AI, DeFi, and developer-tooling categories, with \$5K+ in combined winnings

Technical Writing: Production AI Agents with LangChain (6K+ views) | MCP Protocol Deep Dive (4K+ views)
Scaling Next.js Applications (3.2K+ views)

Education

Keshav Memorial Institute of Technology, B.Tech, Computer Science, CGPA: 8.4/10.0
Government Institute of Electronics, Diploma CS, 9.67/10.0, Rank 2, Gold Medalist

Sep 2023 – Aug 2026
Oct 2020 – May 2023